



(1) Publication number:

0 474 313 A3

## (2) EUROPEAN PATENT APPLICATION

(21) Application number: 91202291.0

2 Date of filing: 06.09.91

(a) Int. Cl.<sup>5</sup>: **C12N 15/31**, A61K 39/095, C12P 21/08, C12N 15/62, C12N 15/53, C12N 15/54, A61K 39/295, C12N 1/21, //(C12N1/21,C12R1:19)

③ Priority: 07.09.90 CU 14590

Date of publication of application:11.03.92 Bulletin 92/11

Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

Date of deferred publication of the search report: 24.02.93 Bulletin 93/08

Applicant: CENTRO DE INGENIERIA GENETICA
 Y BIOTECNOLOGIA
 31 Street, '/156 & 190, Cubanacan Playa
 Havana(CU)

/2 Inventor: Rodriguez, Ricardo Silva Calle 15 No. 4209, entre 42 y 44, Playa La Habana(CU)

Inventor: Houssein Sosa, Manuel Selman Paseo No. 126, entre 5ta y Calzada

Vedado, La Habana(CU)

Inventor: Nieto, Gerardo Guillén

Linea No.6, Apto 4, entre N y O, Vedado

La Habana(CU)

Inventor: Herrera Martinez, Luis S. Centro

Ingenieria

Genetica y Biotecnoligia 31 Str., '/156 & 190

Cubanacan. Playa Havana(CU) Inventor: Fernández Mas , Julio Ra I Calle 26 No.873 1-2,Apto 3, entre Conill

y45,Nuevo La Habana(CU)

Inventor: Novoa Pérez, Lidia Inés

Calle 184 No.3112, entre 31 y 33, Apto 49,

Plava

La Habana(CU)

Inventor: Grillo, Juan Morales

Compostela No.653, Apto 1, entre Luz y

Acosta

Habana Vieja, La Habana(CU)

Inventor: Morera Cordova, Vivian

Calle 184 No.3112, entre 31 y 33, Apto 39,

Playa

La Habana(CU)

Inventor: González Blanco, Sonia

Calle 184 No.3112, entre 31 y 33, Apto 42,

Playa

La Habana(CU)

Inventor: Santos, Beatriz Tamargo

Calle 202 No.29302, entre 293y295, Reparto

Calixto

Sánchez, Boyeros, La Habana(CU)

Inventor: del Valle Rosales, Jes s Augusto D'Strampes N.351, entre San Mariano y Vista

Alegre

La Vibora, La Habana(CU)

Inventor: Menéndez, Evelin Caballero

Calle 7 No.214, entre 2 y 4, Cayo de la Rosa

Bauta, La Habana(CU)

Inventor: Alvarez Acosta, Anabel

Calle 184 No.3112, entre 31 y 33, Apto 1,

Playa

La Habana(CU)

Inventor: Couzeau Rodriguez, Edelgis Calle 184 No.3112, entre 31 y 33, Apto 20,

Playa

La Habana(CU)

Inventor: Cruz Le n, Silian

Ave 47 No.11812, entre 118 y 120, Marianao

La Habana(CU)

Inventor: Musacchio Lasa, Alexis
Calle 128 No.7117, entre 71 y 73, Mariel

La Habana(CU)

Representative: Smulders, Theodorus A.H.J., Ir. et al

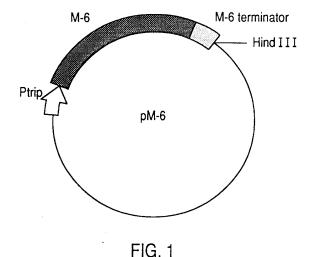
Vereenigde Octrooibureaux Nieuwe Parklaan

97

NL-2587 BN 's-Gravenhage (NL)

## EP 0 474 313 A3

- Mucleotide sequence coding for an outer membrane protein from Neisseria meningitidis and use of said protein in vaccine preparations.
- 57) The present invention is concerned with a method for the isolation of a nucleotide sequence which codes for a protein having a molecular weight of about 64 000 daltons, which is located on the outer membrane of N. meningitidis, as well as with the recombinant DNA obtained therefrom, which is used for the transformation of a host microorganism. The technical object pursued with the invention is the identification of a nucleotide sequence coding for a highly conserved and common protein for the majority of pathogenic Neisseria strains, the production of this protein with a high level of purity and in commercially useful amounts using the recombinant way, so that it can be used in diagnostic methods and vaccine preparations with a broad immunoprotection spectrum.





EPO FORM 1503 03.82 (P0401)

## **EUROPEAN SEARCH REPORT**

ΕP 91 20 2291

DOCUMENTS CONSIDERED TO BE RELEVANT					
Category	Citation of document with i	ndication, where appropriate, sssages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)	
), <b>A</b>	EP-A-0 301 992 (CEN BIOPREPARADOS) * the whole documen		1-22	C12N15/31 A61K39/095 C12P21/08 C12N15/62	
D,A	INFECTION AND IMMUNITY. vol. 54, no. 3, December 1986, WASHINGTON US pages 710 - 713 J. R. BLACK ET AL 'Human immune response to iron-repressible outer membrane proteins of Neisseria meningitidis' * the whole article especially page 712 right column and page 713 *		1-22	C12N15/62 C12N15/53 C12N15/54 A61K39/295 C12N1/21 //(C12N1/21, C12R1:19) C07K15/00 C12N9/02 C12N9/10	
`	EP-A-0 117 783 (MERCK & CO. INC.) * claims *		1-22		
),A	EUROPEAN JOURNAL OF BIOCHEMISTRY vol. 133, no. 3, 1 July 1983, pages 481 - 489 P. E. STEPHENS ET AL 'The pyruvate dehydrogenase complex of Escherichia coli K12' * the whole document *		7		
				TECHNICAL FIELDS SEARCHED (Int. Cl.5)	
				C07K C12N A61K	
	The present search report has b	-			
1	Place of search THE HAGUE	Date of completion of the nearch 30 NOVEMBER 1992		Example: LE CORNEC N.D.R.	
X : part Y : part doc A : teci O : non	CATEGORY OF CITED DOCUME ticularly relevant if taken alone ticularly relevant if combined with an ument of the same category anological background a-written disclosure grandiate document	E : earlier patent do after the filing o	ocument, but published date in the application for other reasons	n	